ASL

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for Limnology Inc

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AUSTRALIAN SOCIETY FOR LIMNOLOGY INC.

The Australian Society for Limnology Inc. (ASL) is an association of over 500 people with professional or amateur interests related to Australian inland waters. Since its inception in 1961, the society has played an important role in fostering limnology in this country. The ASL promotes liaison between limnologists in academic, government and private institutions and has a vested interest in the conservation of aquatic and related resources. Annual conferences are held near centres of limnological interest, and the programme includes scientific sessions, field excursions and social activities.

The ASL regularly produces a newsletter with notes on limnological activities, articles of interest, book reviews and announcements of upcoming events likely to be of interest to Members.

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Membership Infomation and a list of the Regional Executive Officers can be found at the back of this Newsletter

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Material for publication in the March 1998 Issue of the Newsletter should be sent to the Editor (see back pages) before 31st March 1998.

Long articles should be forwarded as unformatted text on a disk or via email.

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EDITORIAL

The final ASL Newsletter for 1997!! Thanks to Margaret Hart who has edited all the telephone number changes and created the 1997 membership Directory.

If there are any Articles, Prattlebut or other sent to me and missing from this Newsletter I blame the electronic greeblies; in updating my computer we somehow managed to trash the folders within my email account, including the irreplaceable ASL folder - so I was left to guess what may have gone flying down the ethernet cable.....

This issue again contains many things; including, an edited version of the 'Future of ASL' document - please read it and pass comments back to the President - it is a *working document* and needs your input., information concerning the 1998 congress and of course the 1997 Membership directory. Missing are the FASTS monthly newsletters (this issue was already getting too large) so if you are interested in what FASTS is up to check either the ASL Home Page or the FASTS Home Page (http://www.usyd.edu.au/su/fasts/).

ASL 1998 Congress, 3-6 July, SW Brisbane
Registration Information will be posted soon!!

DEADLINES FOR THE NEWSLETTER IN 1998

The following are the deadlines for issues of the ASL Newsletter Volume 36.

Volume	Deadline
Volume 36	
March 1998, *No. 1*	31st March 1998
June 1998, *No. 2*	30th June 1998
September 1998, *No. 3*	30th September 1998
December 1998, *No. 4*	31st December 1998

FROM THE PRESIDENT

Welcome to 1998 for all members of ASL

Following the Albury Congress we have had one Executive teleconference and some email circulations. Below I have outlined some of the tasks we have set and have had set for the first half of 1998 - before the next Congress when the Executive is expected to change. In addressing these tasks we will welcome help and helpful advice. Please comment and offer to assist where ever you - its cliched - but it is your Society

1998 Congress - Organisation is underway and Gary Jones *et al* have used the ASL list server to request feedback on dates (if you are not on this please consider subscribing). We have also discussed several specific sessions (eg as in Jenolen Caves) and thematic groupings of papers with key speakers (as in Albury). I have also suggested a special session on a topical issue such as river regulation and irrigation. More as the wonderful volunteers develop the program format and address venue issues.

1999 Congress - The New Zealand Limnology Society have asked several times if we can periodically hold joint Congresses. The last and current Executive supported the concept after considering relative costs and attendance from across Australia. NZ has offered to start things rolling for 1999 and proffered November as a suitable date for them and causing great alarm amongst Australians who mark exams and such things. A counter suggestion has been early December when (I am told) exams and marking should be basically over and done with and various people can link this to a pre-Xmas holiday trip. Please send reactions asap for consideration before we make a decision. In doing this please consider the advantages to the Society of making such links as well as any personalised issues. NZ has indicated a strong preference for a meeting at the end of the year (and it is they who need to handle the logistics etc).

Fitzroy River, WA - ASL has given $1000 support to the organisers of this workshop and requested a copy of the workshop report and a summary for the newsletter and list server. Various groups in WA are also offering similar financial support. Contact Andrew Storey for further information and hopefully see an announcement in this issue of the Newsletter. It is scheduled for 18 February in Perth.

Policy statements - We are pursuing two further policy statements - urban wetlands and arid-zone wetlands. Please support the volunteers who are handling this - I will ask them to make further announcements on their own behalf.

Jolly Award - As requested in Albury we will form a sub-committee to assess the processes for making the Jolly Award. Please forward any comments to me at this stage and I will pass them onto the committee (specific contact names will be announced very soon) for their consideration. We will report asap.

Futures Document - Kerri Muller has agreed to edit the document presented at the AGM in Albury. This will be circulated and open to comment. (Send any further comments in advance.)

Procedures for future - Armed with the edited version of the Futures document we will, as also requested in Albury, develop guidelines for addressing specific issues. Again a sub-committee comprising Executive and general membership will be formed to expedite this.

ASL Charter and Awards - A short draft charter for ASL has been prepared and will be circulated for comment. I also suggest that we compile the various pieces of information on ASL, for example, the student awards and the Jolly Award processes, into a small handbook for members and make it available on the Web. Ideas and comments please.

Executive membership - Unfortunately Janet Smith from Tasmania has had to withdraw from the position of Regional Executive Member. Last year we had two regional reps also withdraw. The Executive will look at the procedures for making replacement appointments and may need to suggest some changes to our current practices. More on this soon, but I feel that we need to maintain input from all states/territories.

Regional get-togethers - Several ASL state/territory groups have arranged or plan to arrange local get-togethers. Please send us reports on these and before Dougo responds I will admit that I missed the NT pre-Xmas gathering.

****

Best wishes to everyone for 1998 and for ASL's attempts to change and actively promote sound limnological science and environmental management practice. Thank you to those people who have personally contacted me and expressed support for the ideas solidly supported at the Albury AGM. Thanks to the past and current Executive members for their input. Now its back to pondering a marvellous tropical wet season despite the gloomy predictions about our friend El Niño. It amazes me that people still desert the north during the wet ..... its beyond compare (well, mostly).

Max Finlayson (maxf@eriss.erin.gov.au)

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PRATTLEBUT, SCUMOUR AND RUTTLE

AUSTRALIAN CAPITAL TERRITORY

Australian National University,
Research School of Biological Sciences

Chris Wilson's been busy pursuing the ecological and evolutionary consequences of interspecific hybridization in water fleas (Daphnia). Most recently, this has involved a mix of lab life history and predation trials, and mucking around in farm dams.

And from John Trueman, Bioinformatics Unit.....

In August, 1997 **Anne Reeves** (National Parks Association) and others nominated the dragonfly *Petalura gigantea* for listing under the Threatened Species Conservation Act, 1995 (NSW). The last good records for this species date from the 1960s, except that **John Trueman** (RSBS, ANU) took some beside a peat mine at Wingecarribee Swamp in the Southern Highlands in December, 1990. The larvae live in burrows in permanent swamps. The Scientific Committee met in December to resolve to make a Final Determination to list the Giant Dragonfly as an endangered species and an announcement of their outcome is expected soon! There was some discussion as to whether they are sufficiently terrestrial to fall under the Threatened Species Conservation Act (aquatic dragonfly larvae are, apparently, fish in NSW).

Meanwhile, a Mining Warden's Inquiry into expansion of the mine has heard that the population has long been extinct. The dragonfly was seen again but not captured on 20 December 1997 (JT) but the spring-fed hollow in which it was breeding is being trampled severely by cattle. Development of a management plan is under discussion between NPWS and interested parties.

Environment Australia
Environment Protection Group

from Greg Rippon

In a recent article on frog deformities (Environmental Science and Technology 31(12), 552A, 1997), it was stated that "the Australian government", in "reacting to the threat that these chemicals pose to amphibians" "has banned 74 herbicides from use near water". Readers may not have been aware that

glyphosate came in so many formulations! These frog un-friendly formulations have now been replaced with a frog friendly formulation in which a new surfactant has been used. **Greg Rippon** and colleagues from the Risk ASsessment and Policy Section are currently trying to see if we can incorporate this type of thing into our performance agreements - you know the type of thing - every 2 products banned nets us a bonus of $500!! As for the average reader of the above article, they have been seriously misled!!

CSIRO Entomology / Australian National University

from Peter Cranston.

Can't get away from the weather really. Locally the paucity of rainfall looked like modifying honours student **Erica Willis'** project on emergence patterns of midges in the Brindabella streams. Although flow had dropped away to a very low level, a thunderstorm or two got them up again, and a successful 2nd 24 hour diel survey was undertaken in the middle of January. Although numbers of exuviae are quite low, diversity is similarly low and a species-level pattern appears to be present. Seasonal (fortnightly) sampling continues and another 24 hr diel survey is planned in February. **Brendan McKie** (supervised at JCU by **Peter Cranston** and **Richard Pearson**) dropped into Canberra to complete his ANU honours-derived manuscript on colonisation of immersed wood, and thereby avoided Townsville's record dump. His prospective PhD research site is now mostly offshore of Magnetic Island. **Peter's** co-supervision of **Brendan** isn't entirely vicarious, since he has a project with CRC-TREM on lotic chironomid biodiversity in the Wet Tropics, which takes him north at quarterly intervals to feed leeches and tangle with Dendrocnide.

Ben Gunn, still glowing from his student prize award at ASL, has taken some summer work with ACTEW and spends his spare time writing up parts of his honours project - notably the response of oribatid mites to inundation of the Magela Creek floodplain (they like it very much). **Ian Wright** has suspended his PhD scholarship to return to Sydney water for six months to top up the financial reserves. These have been severely depleted by his perambulations around the country in search of the prettiest lake between S.E. Tasmania and Cape Flattery (FNQ).

Sophia Dimitriadis, who is to commence honours imminently, accompanied her propective supervisors **Peter Cranston** and **Patrick de Deckker** (ANU, Geology) to take some neontological and core samples from an alpine glacial lake. Her project will involve assessing palaeo chironomid head capsules to determine species response to climatic change (if they do indeed change with climate in Australia ..). A successful funding application to the Australian Academy of Science will allow **Peter Cranston** to do systematic work on

gondwanan chironomids in European Institutions in August and September this year. Interestingly two systematic projects formed some 20% of the Academy's allocation to all science funded in the joint UK Royal Society scheme in 1998 - systematics CAN get competitive funds. In the last two months of 1997 **Peter Cranston** worked with **Don Edward** (UWA, Perth on several systematic projects including an attempt to complete manuscripts on *Riethia* and our favourite midge "grape th", soon to be blessed with the name *Botryocladius* (a similar derivation that oenophiles will recognise). Those that restrict their study to larval chironomids will not recognise what the "grape" and "botryo-" refer to - its a pupal thoracic respiratory horn that to an obsessed mind resembles a bunch of grapes.

Due to inclement weather in Namibia in November (no rain) **Don** and **Pete** cancelled their planned visit in search of the midge *Archaeochlus biko* - the last animal required for molecular and morphological analysis of the gondwana vicariant genus. Recent rains have fallen, and the trip has been rescheduled for late January. **Peter** and **Don** will also call in on South African aquatic entomological colleagues and search for some other local phylogenetically basal taxa for their ongoing phylogenetic studies.

CSIRO-Land and Water

from Brad Sherman, Project leader - Destratification and Water Quality

The CRCFE Chaffey Dam Destratification and Water Quality project team is busy preparing manuscripts and the first draft of the final report which is due to be completed by the end of March. A partial list of significant results to be covered include: why destratification hasn't caused a shift away from blue-green algae but did reduce peak biomass; relative contributions of internal and catchment sources of nutrients; the effects of light and nutrients on the buoyancy of cyanobacteria; differential cooling as a significant transport process; and photophysiology of phytoplankton under field conditions.

NSW National Parks and Wildlife Service, Southern Zone Office, Queanbeyan.

Kim Jenkins and **Hilary Rossow** spent the Nov/Dec heatwave talking with landholders in the lower Darling region of NSW about results from the project on flood frequency and wetland invertebrates. **Hilary** was delighted to find that while she sweltered in 45°C, the temperature back home in Minnesota at Thanksgiving was 45°F. **Kim** presented talks on the project and an education kit (The Dry Lake Animal Farm- inland sea monkeys for primary schools) to the Lower Murray Darling CMC and the Murray Wetlands Working Group. **Andrew Boulton** joined them for a 3 day visit to lakes and landholders along

Teryaweynya Creek, Menindee and the Anabranch of the Darling River. **Andrew** is revisiting **Kim's** definitions after bouncing over a thousand kilometres of red clay on the road to somewhere followed by an hour of grey clay gilgais to see an interesting dynamite hole in a lake. **Kim** and **Andrew** trialed equipment for the final experiment in Kim's PhD project and are now awaiting a flood.....

Back in the Natural Heritage Unit **Kim** and **Hilary** had a productive couple of weeks free from meetings and water reforms. They are developing a wetland classification (based on the Directory of Significant Wetlands) for wetlands in the NSW South Western Slopes. This will be used to stratify survey and management efforts and to wildly generalise from scant data.....**Kim** did not escape water reforms for long and is busy with the high conservation value rivers assessment~ the conservation value of 300 sub-catchments in the southern zone is being assessed using available info. This is part of DLWC's assessment of stressed and unstressed rivers. An embargo on water extraction will be maintained on sub-catchments ranked as high conservation value and these will also be a priority for water management plans.

The Threatened Species Unit managed by **Mike Saxon** has been coordinating the development and implementation of a recovery plan for the southern corroborree frog *Pseudophryne corroboree*. The southern corroboree frog formerly occurred in fragmented populations in sub-alpine and montane areas of Kosciusko National Park. In the last 10 years the species has dissappeared from an alarming number of sites where it occurred previously; particularly in drier areas at low elevation. The frogs breed in pools, seepages in bogs and short wet heath or wet tussock grassland and disperse as sub-adults into adjacent subalpine forest, woodland and heath. Dry summers (1979 to 1982), followed by the 1983 drought, and recent dry years (1996 and 1997), past grazing history, disturbance during construction of the Snowy Mountains Scheme and ski resort development are factors which may have contributed to the frog's decline. The southern corroborree frog is listed as endangered on Schedule 1 of the Threatened Species Conservation Act (1996).

In 1996 NPWS established a Recovery Team to implement a Recovery Plan for the species prepared by **Dr. Will Osborne** of the University of Canberra. **Dr Stephen Clark** from the Threatened Species Unit is currently acting as coordinator of the Recovery Team. In addition to ongoing surveys of the population, a captive rearing program aims to increase the survival rate at the critical tadpole stage of the life cycle. Frog eggs were collected from the ponds in Autumn 1997. These were taken to the Amphibian Research Centre for captive rearing under the direction of **Gerry Marantelli** where their survival was ~90%. Back at the ponds following a poor snow fall, consequent freezing

and early and severe drying of the ponds, only 25% of the overwintering eggs survived.

During the Spring of 1997 the Recovery Team faced hard decisions about how to deal with the ponds warming and rapidly drying out in the drought conditions. The difficult task of maintaining water levels in the ponds through pumping was carried out by staff of the Heritage Unit, Snowy Mountain Region, NPWS. Approximately half of the available tadpoles were released in November and the remainder at a later date. While the success of the program will be measured if the frogs reach sexual maturity in several years, the results are promising. In January the tadpoles began to metamorphose into sub-adults. Ongoing dry conditions now pose the greatest threat to the species. Those of us wishing for floods can join the Recovery Team in willing El Nino away!

CRC FOR FRESHWATER ECOLOGY

Happy New Year everyone!

1998 promises to be one hectic year for the CRC for Freshwater Ecology (CRCFE).

Many of the CRCFE's first-round projects have been completed and final reports written up. The Centre's new research portfolio, comprising mainly large, integrated projects, is being finalised and implemented.

The Centre's science and operations go under the microscope in August for the Fifth Year Review. The outcome of this major review will have a bearing on whether or not the Centre's bid for a new 'life' — a further seven years of funding — is successful. The CRCFE must lodge a bid for a 'new' CRC this year.

New FASTS president

CRCFE Director, **Prof Peter Cullen**, has taken on the role of President of FASTS — the Federation of Australian Scientific and Technological Societies — and will be the spokesperson for some 50,000 working scientists. This role provides **Peter** with a place on the Prime Minister's Science, Engineering and Innovation Council.

Living on Floodplains - making science accessible

Living on Floodplains is now available. This book, produced by the CRCFE in conjunction with the Murray-Darling Basin Commission, was written by

freelance journalist, David Mussared. Among several other journalism awards, David's writing about the Murray-Darling Basin has won him Australia's prestigious National Landcare Media Award (1994), and the Environment Catetory of the international Commonwealth Media Awards (1994).

Aimed at making the science of floodplain ecology accessible to a wide audience, the book outlines why floodplains are essential to healthy rivers and describes some management activities that may be undertaken to help sustain these valuable ecosystems.

Living on Floodplains is being distributed to key staff in natural resource agencies, local government and community groups. It is available for sale from the MDFRC for $25. Postage and handling is $5. To place orders, contact Karen Markwort on 02 6201 5369, email: karenm@lake.canberra.edu.au or Rosie Busuttil on 02 60582300 email: foxylady@mdfrc.canberra.edu.au.
The book is also available through the Natural Resources and Environment (Victoria) Visitors Information Centre and Australia Australian Water and Wastewater Association.

Other publications

Fish and Rivers in Stress, The NSW Rivers Survey report is now available from the CRCFE. Orders may be lodged with Rosie Busuttil at the MDFRC on 02 60582300 or email: foxylady@mdfrc.canberra.edu.au. The book is $30, plus $5 postage and handling.

Scientists give Water Reforms thumbs-up

The science underpinning the proposed NSW Government's Water Reforms has been given the thumbs up by more than 40 Australian water scientists.

The scientists examined the science that is being used to determine river flow objectives for NSW as part of the proposed water reforms.

The independent, full-day forum was hosted by the CRCFE with the support of the NSW EPA following the release of the Proposed Interim Environmental Objectives for NSW Waters.

Peter Cullen, who chaired the proceedings, said that there was strong support for the approach being used by the NSW Government to drive the water reforms.

Prof Cullen issued a challenge, however, saying that ongoing monitoring needed to be built into the NSW Water Reform package so that the NSW public could determine whether or not the reforms were working.

"We need to be able to measure whether or not the environment is responding favourably to the management strategies being implemented," Prof Cullen said.

"On a more positive note, the Government's approach does recognise the complexity of the Australian environment: that variability, droughts and flooding rains, is the spice essential to Australian biodiversity," he said. "It is

more than a bandaid approach; it is trying to work directly with the understanding that we have of how these rivers operate."

Ongoing liaison required for 'river health' issues

By Richard Norris

While the international River Health conference may not have provided definitive answers for managers in terms of 'what to do in their catchments', it did highlight the need for ongoing management-scientific liaison.

- The conference, What is River Health? hosted by the CRCFE at the University of Canberra, attracted more than 180 delegates, many of whom were managers dealing with the complex issues of river health.
- Sixteen oral and 13 poster presentations were given at the conference covering biological, physical and chemical aspects of river health.
- After the introductory session Peter Fairweather developed the philosophy of assessing river health including:
    1. embrace a view of the worth of multiple disciplines and not be so rooted in one scientific tradition or particular patterns (like a single group of taxa);
    2. be guided by public desires about what the environment should look like;
    3. inform those desires by engaging in public debate about what environmental change really means;
    4. non-scientific perspectives such as from history or ecophilosophy; and
    5. operate in a multi-disciplinary manner.
- Dr Kevin Rogers from the University of Witwatersrand, South Africa, provided an example of an integrated approach to assessing river health from Kruger National Park. In his approach, Thresholds of Probable Concern (TPCs) represent hypotheses of limits of acceptable change in ecosystem structure, function and composition and thereby provide an inductive and strategic approach to adaptive management in a data poor situation.
- TPCs provide direction for management but their validity and appropriateness are frequently challenged and adaptively modified.
- Prof Jim Karr's (from the University of Washington, USA) work has been pivotal in defining 'biotic integrity' and 'river health'. These terms, he believes, describe different attributes, the first the state of organisms in their environment and how they function together, and the latter general, societal values set on the former.
- Karr argued strongly for the use of biota to assess river health because:
- they are more comprehensive and robust than chemical standards;
    6. they are effective at diagnosing degradation, defining its cause(s), and suggesting treatments to halt or reverse damage; and

7. they can be used to evaluate the success of those management decisions.

- Because most restoration efforts involve biological goals, then biological endpoints can provide both guides and goals in the practice of ecological restoration.
- Prof Colin Townsend and Dr Ralph Riley, from the University of Otago, New Zealand, explained that perturbations may span broad spatio-temporal scales or be spatially and temporally discrete. A full understanding of changes to ecosystem structure and functioning along the continuum from pristine to profoundly perturbed requires knowledge of physical, chemical and ecological properties at many spatial and temporal scales.
- Many managers seemed to be looking for off-the-shelf 'silver bullets' to tell them what to do in their catchments. There was a recognition that liaison with scientists was likely to be a continuing need. That we have come a long way in the last five years with definitions and methods for assessment of river health was quite clear (eg. AUSRIVAS) but we still have quite a way to go.

Masters thesis commended

CRCFE Masters Candidate David Buckley has received glowing reports from examiners for his thesis, *Framework for designing sediment quality guidelines.*

David is based at the University of Canberra and is supervised by Assoc Prof Bill Maher.

Murray-Darling Freshwater Research Centre

from Daryl Neilson

Suzy McDonald (vacation student) is working with **Darren Baldwin, Gavin Rees** and **Helen King** on aspects of manganese cycling in newsprint mill wastewater used to irrigate a pine plantation. Mn oxidation in wastewater over time is being measured, and the bacteria thought to be responsible isolated and characterised to give an indication of the potential for deposition in irrigation pipes. She is also lucky enough to be working on some stinky mud from the irrigation dam (Gavin loves anaerobes), looking at Mn in the sediments to see where that may fit into this wastewater picture.

Paul McInerney (vacation student) is working with **John Hawking** on the ecology and life history of Pyralids

Shaun Meredith from the Lower Basin Laboratory reports "an unnamed student explained to a bunch of year 7 students, honestly believing that it was the case, that damselflies were female dragonflies."

Alison Mitchell recieved a first class honours for her thesis on Phosphorous release from sediments.

Jackie Griggs was the recipient of this years MDFRC leaky gumboot award. Jackie won the award for her inquisitive nature. During the MDFRC open day she found a hidden recessed button under the reception desk which she pressed. Police were quickly arrived. Jackie quickly explained that no one was attempting to steal her data.

Shane Perryman has started work with **Rod Oliver** and **Ian Webster** on a National Eutrophication Management Program (NEMP) funded project titled "The variation in algal availability of phosphorous from different catchment sources", based on the Goulburn river and led by Rod. The aims of the project are to estimate the quantity and availability of phosphorous coming from different sources within the catchment and the changes/partitioning of the phosphorous as it travels downstream. The project follows studies that indicated much of the particulate phosphorous load to rivers is derived from erosion in upland areas and aims to establish the relative significance of the major phosphorous sources (upland catchments, sewerage treatment plants and irrigation drainage) within the catchment. Shane joined the project after completing an honours degree in Aquatic Science at Deakin Uni. (Warrnambool) studying the speciation of sulphur in a stratified estuary while modelling of the phosphorous behaviour will be undertaken by Ian Webster (CSIRO Dept. Environmental Mechanics). The project also has the support of two major stakeholders in the health of the Goulburn River; Goulburn Murray Water and Goulburn Valley Water.

VICTORIA

WATER ECOscience

from Nick Souter, Jane Bateson Frances Cannon and Michael Shirley

Melbourne Water's StreamWatch programme is winding up and **Rod Hardwick** has finished counting the last macroinvertebrate samples and is now working on the final report. Vin Pettigrove of Melbourne Water likes keeping us busy and **Nick Souter** and **Kylie Lewin** are sorting through Rolling Tributaries samples collected from around Western Port. **Nick** and Vin have also collected a number quantitative sweep samples as part of Melbourne Waters Urban Platypus project. The aim of the project is to correlate platypus presence with macroinvertebrate abundance and Vin has already learnt the joys of Corhanwarrabul Creek quick sand. **Phil Mitchell** has finished sorting his

MDBC artificial substrate samples collected from the River Murray at Mildura. However, he gets no rest from his wicked ways as he's now sorting his Torrumbarry airlift samples. This is to assess the impact of the new weir on the Murray's macroinvertebrates. **Danny Vertessy** and **Alistair Cameron** are sorting macroinvertebrate samples from the Wimmera and Glenelg Rivers, collected to assess environmental flows. They are also completing reports on River Health in the Thompson and Werribee Basins and the Gellibrand catchment. **Alistair** and **Kylie Lewin** are also helping new boy **Michael Shirley** on top secret carp research.. They are using carp in deep diving experiments, with the aim of loading them up with explosives and deploying them against Indonesian nuclear submarines.

Garry Bennison has been making full use of the new WATER ECOscience email system in between doing work on stormwater and sewer systems including the use of faecal biomarkers. **Nick O'Connor** has been head down at the computer busily number crunching data for the mesocosm and UWWRAA projects.

Water samples from 12 sites along the Murray River arrive at the botany laboratory every week as part of the Murray-Darling Basin Commission Algal Baseline Monitoring Program. **Frances Cannon** manages this program and has set up a weekly algal summary report which is distributed via email. If you wish to be part of the email network please contact Frances on fcannon@wes.com.au.

Algal taxonomic guru, **Dr Kumar Eliezer**, is providing advice and guidance to all and in particular in relation to metropolitan and rural water supplies. Other members of the botany group including **Clare Putt, Brett Smith** and **Catherine Sandercock** are busy managing large state wide programs including the Victorian Water Quality Monitoring Network (VWQMN) Lakes and Wetlands programmes and the Major Storages Operational Monitoring Program (MSOMP).

Elizabeth Dudley and **Francine Lacey**, the emergency response team, are sampling, reporting and providing algal management advice all within 24 hours of first notification.

Clare Putt and **Brett Smith** are busy undertaking the summer sampling run for the Victorian Water Quality Monitoring Network (VWQMN) Lakes and Wetlands programmes and work has begun on the VWQMN 1997 Annual Report. **Catherine Sandercock** continues to work on the Major Storages Operational Monitoring Program, which is undergoing a few changes and additions. Recent trend results identified several unexpected, undesirable changes in storage water quality. This has led to a review of risk of water

quality deterioration and blue-green algal blooms for the storages, which looks like leading the program in new directions.

Within Victoria, a number of water quality monitoring reviews are being undertaken on a state, basin and regional scale. A review of water quality monitoring in the Gippsland Region has been completed by **Jane Bateson** and **Frances Cannon**. The review evaluated current water quality monitoring programs in light of regional requirements and provided recommendations for a monitoring network which would deliver a comprehensive picture of water quality in the region. A joint Water ECOscience and AWT Ensight team, lead by **Brett Light**, is undertaking a comprehensive review of the MDBC monitoring program.

Michael Shirley, Nick Souter and **Lance Lloyd** recently completed a management plan for the Cardross Lakes and their endangered residents the Southern Purple-spotted Gudgeon. They appeared to have brokered a peace between fighting local factions and the fish now appear to have a fighting chance for survival. Whilst we are still in Mildura, **Maree Bethel, Kylie Lewin, Lance Lloyd and Majella Hedger** have also completed a management plan for the Lake Cullulleraine.

Brett Light and **Tony Schalken** have recently completed a project which evaluated multilevel offtake options and detailed potential benefits and for Dartmouth Dam. **Jane Bateson** has been working closely with **Kevin Krake** of Goulburn Murray Water to look at the impact of spraying water lily with Glyphosate on water quality, aquatic vegetation and sediments within the Lake Nagambie system. Further research and restoration is being undertaken at Lake Mokoan on behalf of Goulburn Murray Water. This programme being coordinated by **Brett Light, Lance Lloyd** and **Jodie Halliwell** includes a team of thousands including **Michael Shirley** and **Rod Hardwick** on fish surveys of the lake, **Kylie Lewin** managing revegetation trials and **Brett's** sediment nutrient study. **Michael Shirley** and **Nick Souter** are utilising their GIS skills in a bathymetry characterisation, and **Peter Cottingham** is developing conceptual models for ongoing management of the system.

WESTERN AUSTRALIA

Conservation and Land Management

from: Adrian Pinder

After 5 months field work and just one roadhouse pie too many, **Stuart Halse, Mick Smith, Winston Kay, Jane McRae** and **Adrian Pinder** are busy sorting and identifying invertebrates. For the first year of the First National Assesment of River Health, we concentrated on the wheatbelt region of the south-west, sampling rivers from just north of Geraldton to east of Esperance. **Mike Scanlon** has joined **Mick** and **Winston** on that project to get the bugs identified before the next round of sampling in April.

Adrian Pinder and **Jane McRae** are sorting and identifying bugs from 60 wetlands as part of CALM's contribution to the Western Australian Salinity Action Plan. The aims are to document the invertebrate and waterbird diversity of about 200 wheatbelt wetlands over three years (a team of botanists will survey the flora), examine the relationship between salinity and the biota, and use the data to recommend 'recovery' catchments (those with the highest conservation values where salinity mitigation measures will be put in place to maintain biodiversity). Wetlands in these catchments will be monitored intensively to ensure that catchment works are effective. Twenty-five other wetlands with high conservation value, spread throughout the low rainfall agricultural zone are also being monitored regularly to document changes in wetland conditions. **Edyta Jasinska** (here until she takes off for Canada for her postdoc in June) has been employed to process the samples from these monitored wetlands.

Adrian is still working on oligochaetes collected from the south-west of WA and Tasmania but, since this relies on the concept of spare time, progress is slow. **Stuart** is still trying to finish off a large scale survey of aquatic invertebrates and waterbirds in the pastoral zone around Carnarvon, done in 1994/5, but recently found time to take part in the Eastern Australian aerial survey of waterbirds with **Richard Kingsford**.

SOUTH AUSTRALIA

Australian Water Quality Centre
Macroinvertebrate Unit

The AWQC stream ecology section is flat out. However, all members except **Sam Wade** and **Chris Madden** took extra days holidays to recover from 1997 and prepare for 1998 which promises to be the busiest year ever for macroinvertebrates at Bolivar. **Trevor Green** is on extended leave until May. We can report that FNARH sampling was completed just the week before Christmas on our 200 sites for Spring. Bakery sales around the state will be depressed until sampling begins again in autumn 1998. **Paul McEvoy** was finally able to see that it can rain enough in Adelaide to produce consistent flow for many weeks in our streams but he had to wait for spring in some areas to see it. We will have more news for the next edition when it is hoped that we will have 2 new people started work to catch up with our sample backlog (about 700 samples at the moment!!!!). The funding appears to have been approved by Senator Hill and passed through LWWRRDC at last. We are currently exploring the SA mite fauna with a view to asking "What's this?" at the upcoming MDFRC workshop. Keying to family is not too bad so far. The AWQC team will use an 8 seater van to attend the Taxonomic Workshop in February as air fares from Adelaide to Albury are exorbitant.

New staff have joined the team. **Robert Walsh** from Tasmania has joined the consultancy processing team where his zooplankton expertise will strengthen our team. **Daria Schulze** is assisting with an urgent project before joining the Monitoring River Health team in February. **Sam Wade** will be retained on a part time basis although returning to Academia to complete his thesis write up. Another biologist has been asked to join the consultancy team for six months from February.

Old projects continue to demand reporting time while new projects appear and demand planning time. The effect of releasing chlorinated and un-chlorinated River Murray Water into streams to convey water into storages is one new project.

Holiday news: Pedro the fisherman (**Peter Schultz**) was so busy playing Grandfather during the day that he only caught 2 whiting in a week at Port Lincoln. The ten Snapper at night helped compensate as did the dawn hauls of 4 crayfish/day, weather permitting. **Paul McEvoy** showed his parents the joys of Adelaide.

Algal Studies Lab

Mike Burch, **Peter Baker** and **Renare Velzeboer** have been busy preparing final reports on a number of projects relating to cyanobacteria. **Mike** has completed an extensive report on "The Evaluation of Copper Algicides for Control of Algae & Cyanobacteria", while **Renate** has been putting the finishing touches to her report entitled "Characterisation of saxitoxins produced by the Cyanobacterial group *Anabaena*". **Peter** has commenced the writing up stage of his life history & ecology study of *Anabaena circinalis* in the lower River Murray.

University of Adelaide
Botany Department

by Kerri Muller

Well here we are in 1998, the new Honours students are fretting and the old PhD students just sigh!! New amongst our ranks are **David Cenzato, Mark Siebentritt** and **Amy Slocombe** - all Honours students. **David** is looking at growth repsonses of two submerged macrophytes to increased turbidity in the now world famous Botany ponds and field truthing at Barker Inlet. **Mark** is puzzled and languishing in deep water and *Bolboschoneous* and will also work as a field botanist soon. His project focusses on the competition between and subsequent zonation of two species of Bolbo at Barker Inlet. And **Amy** is assessing the viablity of the seedbank at Gordan's Lagoon (near Bool Lagoon) as a means of revegetation. She is **Marcus Brownlow's** first Honours student so he can start nagging now he is on the other side.

I am pleased to say **Justin Brookes** has handed in (title: The influence of nutrients and light on the metabolic activity and buoyancy of *Microcystis aeruginosa* and *Anabaena circinalis*) and is now working for **Mike Burch** at SA Water on a reservoir project. Well done **Justin** - (we will overlook the fact that I should be handing in next week to be on par). **Kay** is diligently writing her masterpiece and nothing else.

Karen had another trouble free field trip - hah hah! - she may have enough operational equipment to go on another field trip and take a break from constant algal counting. **Sean White** - more pond experiments, lab work to break the monotony and in between trying to get lst year's experiment published and still loving the short blacks and cigarettes. And me - I have almost recovered from my skin graft and am ready to be further infected when I start field work next week - just one last experiment (and a minor piece of written work) and I am out of here
GGG - is the same as always

TASMANIA

from Janet Smith

Just a quick introduction of myself the new ASL Tasmanian Representative. I am a PhD student in the School of Geography and Environmental Studies at the University of Tasmania. My PhD is on the regeneration of freshwater wetland plants, i.e. looking soil seed banks, vegetative reproduction and long distance dispersal. I can be contacted by either email J.A.Smith@utas.edu.au or phone (03) 62267612.

Just a note to say that the Tasmanian Threatened Species legislation is now operating, and that the Threatened Species Unit has been set up with the scientific Advisory Committee consisting of **Mick Brown** (Chairman), **Jamie Kirkpatrick, Alastair Richardson** (ASL member) and **Peter McQuillan**.

The Threatened Species Protection Act 1995 is an act for the protection and management of Tasmania's threatened species. The Act provides schedules of species which have different degrees of threatened status and also establishes mechanisms for listing and delisting of species. Three categories of threat status are recognised: endangered, vulnerable and rare. The minister is advised by a Scientific Advisory Committee established under the Act (members mentioned above) and support is provided by the Threatened Species Unit of the Dept. of Environment and Land Management.

A threatened species workshop involving more than local 60 biologists was held in November with the aim of refining criteria for the listing of species. Current issues occupying the SAC include definitions of critical habitat to be applied to listed species and the completion of a Threatened Species Strategy document.

There has been a public call for nominations for listings and delistings which will be dealt with by the SAC as they are received. Any suggestions of deserving aquatic biota would be gratefully accepted. The giant freshwater crayfish *Astacopsis gouldi* is now fully protected from January 1998. Numbers had declined to low levels after years of stream deterioration and fishing by rural folk in northern Tasmania.

NORTHERN TERRITORY

The Environemental Research Institute of the Supervising Scientist

from: Lisa Thurtell

Aboriginal wetland management has been a high priority for the wetland management group at eriss over the last few months. **Max Finlayson, Bob Pidgeon, Kym Brennan** and **Lisa Thurtell** attended an Arafura Swamp workshop in Darwin during November to discuss protocols and potential research projects. The workshop was organised by the Centre for Indigenous Natural and Cultural Resource Management (CINCRM) at NTU on behalf of the Northern Land Council (NLC) Caring for Country Top End Indigenous People's Wetlands Program. eriss' interest was primarily to establish procedures for developing collaborative wetland programs with the NLC, traditional owners and others.

Max, Lisa, Dean Yibarbuk (Bawinanga Aboriginal Corporation) and **Michael Storrs** (NLC) have been finalising a report describing the processes involved in creating a management plan for the Djelk wetlands (Arnhem Land). This report will be used by the IUCN as a case study.

The management plan is still developing, with a second fish survey being completed in November by **Kym Brennan, James Boyden** and the Djelk Community Rangers. They hoped to document the distribution of freshwater fish species present in the Mann river system in Floodplain, Lowland and Escarpment zones. This knowledge will help the Bawinanga Aboriginal Corporation (BAC) to plan management of wetlands in the region and provide some background to assess the economic potential for the sustainable harvesting of native fish. **Kym** also surveyed the riparian vegetation of the Mann River.

Max returned in early November from a quick visit to PNG. He was participating in the Progera Environment Advisory Komiti (PEAK) site visit to Progera. In 1995 The Progera Joint Venture commissioned an independent review of the riverine impacts associated with the Progera Gold Mine in PNG. The PJV is publicly releasing the findings and invited Ms **Meg Taylor** from PNG to establish a Stakeholder Monitoring Committee. The Committee includes PNG government, PNG and Australian based NGOs, landowners and technical specialists.

Chris Humphrey is brushing up on his Indonesian in preparation for his visit to East Java as part of the East Java Pollution Control Implementation project. **Chris**, with **Barry Hart** and others, will be visitng Brantas River in a bid to

introduce the rapid bioassessment procedure to Indonesia as part of their National Clean Rivers Program.

Department of Lands, Planning & Environment
(Water Quality Branch)

from: Jane Suggit

All is quiet in Water Quality as we move towards Christmas. Only a few people beavering away still.

Simon Townsend has been preparing his PhD for submission, attending community meetings re algae problems and doing field work from Welltree to Kapalga. Recently **Simon** passed an advanced driving course at Welltree, it was the certificate in "Rainy driving with sliding trailer on clay surface road".

The MRHers **Sam Cook, Eunice Astondoa, Jane Suggit** and **Cyrus Edwards** are rounding up 1997 doing last minute microscope work and submitting three data sets, a milestone report, and financial submissions for present and future years.

Three croc attacks reported in a month and the MRH troops are getting restless and starting to hassle about the use of guns on field trips. Might leave thinking about the 'Dirty Harry' stuff 'til next year.

A bit of trivia - On the news last night I heard that police stopping cars in the Darwin Rural area were finding 50% of drivers had open cans of beer. I wonder if one of them was **Rodney 'Rocket' Metcalfe** travelling home after a hard day's work doing a veg survey on Knuckey's Lagoon.

Centre for Tropical Wetlands Management
Northern Territory University

from: Ruth O'Connor

While the rest of the university seems to be winding down to a hot and steamy festive season the limno lab has been all systems go. **Ruth** has been wondering why she moved to Darwin given the amount of time she and **Michael Douglas** have been spending in Kakadu starting work on the EA/LWRRDC – funded project on the ecological effects of Para grass. With all sites selected and marked by an attractive range of fluoro poles, we can now stop anxiously scanning weather reports for monsoonal troughs. Field time has also been well spent in observing the transformation of the floodplain from half-burnt dustbowl to lush bowling green, witnessing some interesting interactions

between native fauna and Para grass and all the while improving my quad-riding skills (hitting steep ditches in 5th gear is not a good idea).

Meanwhile, back in the lab, **Keith Ferdinands** and our Irish recruit **Reg Campbell** have been powering through a mountain of bug samples from Kapalga and Litchfield for **Dougo's** ongoing work on effects of fire and species-area relationships respectively. In the lull over Christmas **Dougo** is rumoured to be setting up a second office in a secret location to channel his energies into the production of a certain unmentionable document. Stay tuned.

ISSUES IN LIMNOLOGY

LIMNOLOGY OF THE FITZROY RIVER, WESTERN AUSTRALIA: A TECHNICAL WORKSHOP

Wednesday 18th February 1998, 8:30am - 5:00pm
Claremont Conference Centre, Edith Cowan University,
Claremont Campus, Bay Road, Claremont

As you may be aware, there is a proposal to impound major tributaries of the WA Fitzroy River to supply water for irrigated agriculture on the floodplain of the lower Fitzroy River. In response to this proposal, we are running a full-day technical workshop in mid-February 1998. The workshop will focus predominantly on limnological issues.

There will be 12 invited speakers, covering major disciplines relating to the limnology of the Fitzroy River. Each speaker, for their discipline, will outline what we currently know about the Fitzroy system, including information on the values of the system (i.e. threatened species, communities etc), what we do not know, and what we need to know to assess the likely impacts of any future developments in the region. The presentations will be followed by a Group Discussion in the mid-afternoon when, collectively, we will discuss the likely effects of the development as related to each discipline.

The workshop will be held in the Kurrajong Theatre, at the Claremont Conference Centre, Edith Cowan University, Claremont Campus, Bay Road, Claremont, and will run from 8:30am - 5:00pm on Wednesday 18th February 1998. Morning tea, lunch and afternoon tea will be provided.

The workshop is sponsored by the Australian Society for Limnology, Centre for Ecosystem Management at Edith Cowan University, the Aquatic Research Laboratory at The University of Western Australia, and the Aquatic Ecosystem Research Group at Murdoch University.

There is a $20-00 registration fee. This covers the cost of the workshop (teas and lunch) and includes a copy of the proceedings. To attend the workshop you must register by Monday 9th February 1998!!! The venue holds 100 people, so spaces are limited. For further information please contact:

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Nedlands WA 6907
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Email: awstorey@cyllene.uwa.edu.au

1998 CONGRESS - BRISBANE

1ST ANNOUNCEMENT
ASL ANNUAL CONFERENCE - 1998
JULY 3 - JULY 6
SW BRISBANE

This is the first announcement of the venue and upcoming arrangements for this year's conference. Those of you on the ASL list server will have received some details from me outlining the "bush" venue we were looking at back in December. I received nearly thirty replies about the suitability of this venue and all were very positive. Only one senior professor (I may reveal his name at the meeting over a beer or three) requested more robust accommodation than tents! Anyhow, because of the overwhelming support for the particular venue, it has been booked.

The venue is called Ivory's Rocks Conference Centre - it is about 45 minutes SW of Brisbane by bus (airport transfers will be organised) and about 15 minutes south of Ipswich. The conference centre is set in a beautiful bushland-mountain side setting on about 1500 ha of mostly unspoilt land, with a spectacular rock formation (Ivory's Rock) overlooking the conference area. There are a few natural streams (ephemeral), a permanent water hole, an artificial lake, and a couple of small dams to keep your interest over the weekend (I haven't checked if these are AUSRIVAS sites yet!). July is the driest month of the year, though it may be rather cold in the evenings. If worst comes to worst and it rains, we can all do some ephemeral stream sampling together, so bring your gumbies!

They have a modern conference hall that will comfortably seat 300. For parallel sessions, they use fully equipped marquees, which can be darkened inside, and are equipped with OHPs, lecterns, etc.

Accommodation is nearly all in tents - either set up by them (regular or deluxe versions), with beds, bedding, mattress, linen, towels, clothes stand, and torch (regular tent); or you can bring your own tents - costs vary accordingly. The tents are twin or single share depending on how much you want to pay. I have also organised a cheap rate for students who want to bring their own tents. There are also about 15 twin share 'pents' - these are like tents but made from wood! There is an excellent, modern amenities block, catering facilities, etc. The dining room also would be a large marquee and all meals will be supplied. Self-cooking is not allowed. The camping area is about 1 km from the

conference hall, and we will organise a shuttle bus service for those who are not keen on walking. For those who may need more 'robust' accommodation, Ipswich and its many motels is about 20 km north, but we do have a reasonable obligation for most people to stay on-site.

We will be sending out registration and abstract submission details by mail soon (read the next month or so). We hope to have as much of the process as possible computerised and run through a web site and by e-mail. As with the past few years, all abstracts must be submitted electronically, either by e-mail or on disk. Details will be sent with the registration package.

We will organise a pre- and post-conference tour if there is enough interest. Thorsten Mosich is tracking down some options for us. On the conference days, buses will be available to take accompanying persons to Brisbane or to Movie World/Dream World/Wally World etc.!

In the mean time if you have any questions, or suggestions regarding plenary sessions and speakers please e-mail me on:
gary.jones@dnr.qld.gov.au

Cheers, Gary Jones (CSIRO Land and Water)
Stuart Bunn (Griffith University)

ARTICLES

THE FUTURE OF ASL

At the AGM held during the ASL Congress in Berri (September 1996) we accepted the following motion and proposed that we investigated the Future of ASL via the mechanism given below.

ASL forms a policy sub-group to investigate mechanisms (protocols) to

1. *Raise the profile of ASL with governmental policy makers and advisory panels etc*
2. *Deal with external requests for the provision of advice on issues*
3. *Provide interactive fora to debate conservation issues within ASL*
4. *Release ASL policy statements on selected issues*
5. *Maintain the current strengths of ASL*

And to present options to the Executive and the 1997 AGM.

The Executive asked members to contribute comments and ideas on the above given motion. Five sub-groups were formed from Executive members and a list of voluntary contributors to address each of the individual points in the motion. The comments and ideas from these sub-groups formed the basis of a mailing on the ASL News Group and were further developed into the following document (hitherto referred to as the futures document).

In Albury (September 1997), the issues raised in this document were further discussed at the AGM and the following motions were passed:

1. *the ASL president be empowered to make public statements on behalf of the society, and all such statements be made only after appropriate consultation with the society membership*
2. *the ASL supports the ideas and actions in the futures document and this AGM asks the incoming executive to advance these issues and processes as outlined in this document*

NB: the motion ' the ASL either through its executive or membership does not make written or verbal public statements' was rejected by the Albury AGM.

Now that we have accepted these ideas and actions , we need to implement them. As a first step, a preliminary list of immediate tasks is presented at the end of the document. Please study this draft and accompanying list carefully and direct your comments to the News Group and the Newsletter (refer to the document items specifically). If you have any concerns or ideas this is your opportunity to have your say about the future of ASL.

1. RAISING THE PROFILE OF ASL WITH GOVERNMENTAL POLICY MAKERS AND ADVISORY PANELS ETC

ASL has not hitherto presented a profile to governmental agencies that has seen it regularly assume the mantle of providing expert advice to governmental policy decisions or nominating experts to governmental panels. Past attempts to promote ASL as a forum for providing such input have not generally received a favourable response. It is proposed that a number of processes are adopted to promote ASL as a forum for expert scientific debate and advice within governmental agencies. Recent invitations to nominate independent experts to several bodies in Western Australia provides notable exceptions and demonstrates that ASL can fulfil this role.

1.1 The Executive establishes a "policy committee" that encourages and coordinates the release of appropriate statements on topical limnological issues through the various fora outlined below, with a particular emphasis of bringing this material to the notice of policy and managerial agencies at all levels of government.

1.2 Individual members within policy and managerial agencies are encouraged to promote ASL as a forum for debating limnological issues before, during and after the development of policies that affect aquatic research and management.

1.3 ASL seeks further means of cooperating with other scientific societies (such as Federation of Australian Scientific and Technology Societies, Institute of Biology) through, for example, joint conferences or special events that allow individuals to present credible scientific views on aquatic issues/policies.

1.4 Actively promote the list of ASL members who have volunteered to speak as experts on behalf of ASL, and consider a more appropriate name for the list.

2 DEALING WITH EXTERNAL REQUESTS FOR THE PROVISION OF ADVICE ON LIMNOLOGICAL ISSUES

It is accepted that ASL must maintain scientific credibility in the eyes of both its members and the broader community. Thus, we need to avoid sending a barrage of media releases on all issues that affect the conduct of research into and conservation of aquatic ecosystems. Steps that will assist ASL respond to such issues are given below.

2.1 The Executive be given total authority to develop a procedure to issue policies and/or statements that provide scientific comment on specific issues with ASL seen as the vehicle for debate rather than making pronouncements..

2.2 The list of ASL volunteers is revamped with a clear identification of the role of the list and means of promoting it within and without the Society.

2.3 ASL prepares a list of the Top Ten Limnological issues and actively promotes this and reviews it regularly.

2.4 The Executive actively seeks and supports a few governmental and non-governmental fora (such as the Biodiversity Council, Australian Wetlands Alliance) where it can focus its attention through nominated individuals.

2.5 The Executive creates a position for specifically collating responses for external comments and interaction.

2.6 The Executive is elected for a two year period in order to provide focal contacts for external interaction and to allow individuals time to familiarise themselves with the issues and procedures.

3 PROVIDING INTERACTIVE FORA TO DEBATE LIMNOLOGICAL ISSUES

A *Limnological Discussion Forum* in which issues can be informally debated should be developed and hosted by ASL on a regular and well publicised basis. The forum should allow for the discussion of limnological issues by both ASL members and others, but does not necessarily represent the views of the Society. This can be done through the written/electronic media already operated by the Society and by the hosting of a regular lecture/seminar.

Written/electronic media

3.1 There should be a written/electronic forum within ASL (eg Issues in Limnology section in the Newsletter and an Issues in Limnology part on the Home Page) where members or invited non-members can raise and debate issues.

3.2 The Issues Pages are not the stated position of the Society as a whole, but reflect the views of members or invited contributors (statement to this effect published with each Issue).

3.3 The Issues are not endorsed by the President or Executive (this would also be stated clearly with each Issue).

3.4 The member(s) raising the Issue must act as the spokesperson and include their name, address and contact numbers (and email) before the Issue will be 'published'.

Lecture/Seminar

3.5 There should be a regular verbal lecture/seminar forum within ASL where members and invited non-members can raise and debate issues.

3.6 The lecture/seminar are not the stated position of the Society as a whole, but reflect the views of the speakers (statement to this

effect made at the commencement of each presentation and with any advertising material).

3.7 The Issues are not endorsed by the President or Executive (this would also be stated clearly at the commencement of each presentation and with any advertising material).

3.8 The member(s) speaking on the Issue must include their name, address and contact numbers (and email) before the Issue can be presented

3.9 The Executive may decide to formally publish the material presented (this would be made clear prior to the presentation).

4 RELEASING POLICY STATEMENTS ON SELECTED ISSUES

4.1 There are two modes by which ASL could release information to the public: i) *Policy Documents* and ii) *Issue Statements*. The procedures for releasing information once it is formulated also need to be addressed at an early stage during the process of formulating a Policy or Statement.

Policy documents and issue statements

Policy Documents

4.2 ASL should produce Policy Documents (eg Wetlands Policy Document) on specific aquatic issues. These would outline the general position of ASL, as represented by a specifically formed sub-group, but would tend to be fairly broad in nature and non-binding on members. ASL would act as the vehicle for distributing informed comment on specific issues under the guidance of the Executive and the AGM.

4.3 Policy documents could be produced for:

- Wetlands (already done)
- Arid Rivers (in prep.)
- Urban Streams
- Flow Regulation, etc.

4.4 The Society President and Executive would endorse these documents and ASL would fund the printing of a number of copies to be distributed to a selected audience.

4.5 Policy Documents would be placed on the Home Page and also published in the Newsletter and News Group.

4.6 The Society President and Executive would nominate someone to be the spokesperson for each document (probably the person who was integral in putting the document together).

Issue Statements

At various times ASL will be requested to make statements or it may wish to state the ASL position about specific issues (eg cotton irrigation proposals, environmental flows). This requires a mechanism for the

prompt release of ASL endorsed statements suitable for release to the media.

4.7 The material may be put together by any ASL member (with proven relevant expertise) and submitted to the Executive for endorsement.

4.8 Endorsed statements would require the signature of at least five (5) members of the ASL Executive which currently comprises 14 members (5 executive officers, 8 regional members and the editor) and acknowledgment by the President.

4.9 The person who was primarily responsible for collating or preparing the material for the statement would act as the principal media contact - the Executive should also act as regional contacts.

4.10 Release of a statement would be through national and regional media - it is the responsibility of each ASL Executive member to ensure the material is disseminated in their State/Territory under guidelines for media dissemination.

The release of policy and statements

If the release of ASL policy or statements are to "have an impact", ASL will need to become more aware of the media and its requirements for successful publication. A set of procedures (guidelines) should be developed to facilitate the dissemination of ASL information. These should address the following:

4.11 Immediacy of action to ensure a comment on a particular issue gets to the media whilst it is still a hot topic through, for example faxstream addresses of media outlets (on a state/territory basis) being held by the Executive.

4.12 Readily access to media contacts for regional comment with the Executive as the initial, but not only, referral point for each State/Territory.

4.13 Insertion of a standard piece about the ASL (eg its membership, charter, etc)

4.14 Storage of material for immediate release, such as short pieces on recurrent themes of sustainable development of aquatic resources, and the inadequate funding for limnological research.

4.15 Availability of visual material for television, such as standard shots of wetlands, rivers, lakes, land degradation, etc.

4.16 Targeting different forms of media and to time the releases for maximum exposure

5 MAINTAINING THE CURRENT STRENGTHS OF ASL

Open recognition of the values and strengths of ASL is needed and should be constantly reassessed to ensure that relevance and service to members is maintained and/or updated. Some of the current strengths are presented below. It is noted that these strengths can only be maintained by active involvement of sufficient numbers of members.

5.1 ASL has a casual and relaxed manner that is open to all and friendly to newcomers, not daunting to students and is not enmeshed in formal procedures.

5.2 The Society has a strong student base and actively encourages student attendance at and participation in its informal annual congress.

5.3 ASL is essentially a scientific society that encourages debate and presentation of research materials and has no delusions of being a professional society or a political lobby group.

6 WHAT NEEDS TO BE DONE?

6.1 define 'appropriate consultation' in the first motion passed in Albury and develop guidelines by which the Executive can appropriately consult the membership before releasing statements.

6.2 decide upon a name for our list of volunteered experts, the role required of them and ways in which the list can be promoted

6.3 establishment of a 'policy committee' see 1.1

6.4 prepare a list of the Top Ten Limnological Issues - active promotion and review

6.5 raise issues for debate on the NewsGroup and in the Newsletter and consider other issues that may require ASL to release a specific policy statement

6.6 produce policy documents on issues already highlighted e.g. Urban Streams and Flow Regulation (any volunteers??)

6.7 help your Executive member to compile a list of national and regional media contacts e.g. faxstream numbers

6.8 develop a strategy for releasing media statements effectively

6.9 add to the list of the strengths of ASL - surely we are more than a group of friendly pisspots that like chatting to students without delusions of being professional!!!

MONITORING AGRICULTURAL LAND COVER CHANGE FOR AUSTRALIA

Viv Bordas
Bureau of Resource Sciences

(Figures for this article can be seen on the BRS Home Page http://www.brs.gov.au/apnrb/landcov/landcov.html)

Australia's first National Greenhouse Gas Inventory identified that agricultural land clearing could be contributing almost a quarter of the country's total greenhouse gas emissions. These estimates were regarded as very uncertain, due to the lack of information on rates of clearing and the type of vegetation cleared across the continent. A joint Commonwealth - State government project has been initiated to monitor agricultural land cover change over the period 1990 - 1995. The area being mapped (Figure 1) includes the most intensively used agricultural landscapes in Australia, covering almost three million square kilometres.

Landsat Thematic Mapper data are being used in conjunction with land tenure data, aerial photography and existing vegetation mapping to produce 3 digital data sets at a scale of 1:100 000. These data sets will enable inventory calculations to be carried out at a regional level within a geographic information system.

Detailed specifications have been established to ensure that the data sets address inventory information requirements and can be compiled as a nationally consistent data base. The project will be completed in December 1998 and released on CD ROM after an independent accuracy assessment. The project's progress and specifications can be seen at http://www.brs.gov.au/apnrb/landcov/landcov.html The progress map (Figure 2) is updated fortnightly.

Three data sets are being compiled for the project. The Land Cover Change 1990 - 1995 data set will document the losses and gains in woody vegetation over this five year period. Figure 3 shows Land Cover Change for the Robinvale 1:100,000 mapsheet in Victoria. As tree loss (clearing) and gain (planting) are the major changes in agricultural lands and managed forests affecting greenhouse gas fluxes, the methodology focuses on detecting changes in the distribution of woody vegetation. Woody vegetation is defined as all vegetation, native or exotic, with a height greater than or equal to 2 metres and a crown cover of 20 percent or more.

The Structural Vegetation 1990 data set will establish a baseline data set showing the distribution of broad structural classes (including floristic type,

growth form, density and height) for woody vegetation. These data will provide a spatial basis for estimating vegetation biomass (and hence carbon released to the atmosphere) lost through clearing. The Land Cover Themes data set will provide a template for future agricultural land use mapping. Examples of the outputs for these latter two data sets can be viewed at http://www.brs.gov.au/ccs/ccn/ccn.html (volume 9 issue 4).

The Project Team is currently discussing the output formats, including data formats, projections, attributes and access arrangements for the final data sets. The discussion paper will be available at http://www.brs.gov.au/apnrb/landcov/landcov.html in late December. Potential users are invited to email their comments to BRS.

The Project Team includes the following agencies; Bureau of Resource Sciences, Agriculture Western Australia, Natural Resources Systems Victoria, New South Wales Department of Land and Water Conservation, Northern Territory Department of Planning and Environment, Primary Industries South Australia, Queensland Department of Natural Resources, South Australian Department of Environment and Natural Resources, Tasmanian Department of Primary Industry and Fisheries and Western Australian Department of Land Administration.

ANNOUNCEMENTS

HABITAT STRUCTURE OF MACROPHYTES

Thank-you very much to the four people who responded to my request for information. I have learned a lot about plant/invertebrate interactions and we now have some ideas about what aspects of macrophytes we need to measure to try and quantify habitat structure. We're also on the track of working out exactly how we might do this – I can see the NT News headlines now "Croc attacks loony limno".... Anyway, the following is the list of references I received:

Bechara, JA (1996). The relative importance of water quality, sediment composition and floating vegetation in explaining the macrobenthic community structure of floodplain lakes (Parana River, Argentina). *Hydrogiologia* **333**, 95-109.

Cyr, H. & J.A. Downing (1988) The abundance of phytophilous invertebrates on different species of submerged macrophytes. *Freshwater Biology* **20**, 365-374.

Dibble, E.D., Killgore, K.J. and G.O. Dick. (1996). Measurement of plant architecture in seven aquatic plants. *Journal of Freshwater Ecology* **11(3),** 311-318.

Downing JA (1991). The effect of habitat structure on the spatial distribution of freshwater invertebrate populations. *In 'Habitat Structure: the Physical Arrangement of Objects in Space.'* Bell, SS., McCoy, ED., Mushinsky, HR (eds). Chapman & Hall

Russo, A.R.(1990) The role of seaweed complexity in structuring Hawaiian epiphytal amphipod communities. *Hydrobiologia* **194**, 1-12.

Sher-Kaul, S., Oertli, B., Castella, E. and J.-B. Lachavanne. 1995. Relationship between biomass and surface area of six submerged aquatic plant species. *Aquatic Botany* **51**, 147-154.

Turner AM and Trexler,JC (1997) Sampling aquatic invertebrates from marshes :evaluating the options. *Journal of the North American Benthological Society* **163**, 694-709.

Ruth O'Connor

LIMNOLOGICAL VACANCIES

Two positions have become available to work with Paul Bailey and Paul Boon in a wetlands project linking Monash and Victoria Universities. The project will examine possible shifts in wetland vegetation, especially the replacement of macrophytes by algae (epiphytic or planktonic), after nutrient enrichment. It is due to commence in early (March or April) 1998.

The project is funded jointly by Environment Australia and LWRRDC under the National Wetlands R&D Program. The field sites for the project are at Shepparton in central Victoria, and at Sale in south-eastern Victoria. The two positions will be based at Monash University (Clayton), but some work will be undertaken at VUT (St Albans) as well. We anticipate there being a large amount of field work. This field work will centre on measurements of rates of primary production and biomass accumulation. Some work will also be done on nutrient transformations. A number of BSc(Hons) and PhD students will also be involved in the project.

One position is at a Post-doctoral Research Associate level, and the other is at a Research Assistant level. If you are interested in obtaining more information on these positions, contact either of the two Pauls on the following numbers:

Paul Bailey
phone: 03 9905 1422
fax: 03 9905 5613
email: p.bailey@sci.monash.edu.au

Paul Boon
phone: 03 9365 2214
fax: 03 9 365 2465
email: paulboon@vut.edu.au

THE SWAN-CANNING ESTUARY CONFERENCE: SCIENCE, MODELLING AND MANAGEMENT

April 15-17, 1998
Faversham House, York, Western Australia

This conference is designed to provide a forum for presentation of the outcomes of projects related to the Western Austraian Estuarine Foundation (WAERF) research on the Swan-Canning Estuary system as well as other relevant research projects that are not supported by the WAERF. A primary function of the conference is to facilitate translation of the research findings into practical outcomes that have direct input into management strategies for improvement of the environemntal value of the Swan-Canning Estuary system. This task is presently being co-ordinated by the Swan-Canning Clean Up Program Task Force.

The conference proceedings will be published as a special issue of the international journal *Hydrological Processes* and as a book by *Wiley Publishers.* Authors are to submit completed papers at the conference and these will be published subject to successful peer review.

Conference themes include:

- Catchment processes
- Groundwater and sediments
- Benthic biota
- Phytoplankton
- Zooplankton and fish
- Estuary and river hydrodynamics
- Nutrient dynamics
- Modelling and management
- Estuarine intervention techniques
- Integration: from research to management practice

The conference venue is Faversham House at York, 75 minutes drive from Perth. The historic township of York is Western Australia's first inland town. The conference includes a field trip to the Avon River and keynote addresses by researchers of world renown: Dr Graham Harris (CSIRO Land and Water), Professor James Cloern (United States Geological Survey, Menlo Park, U.S.) and Dr Jake Peters (United States Geological Survey, Atlanta, U.S.).

Registration is due by 15 February 1998. The registration fee for the three days is $380 or $280 for students. This fee includes all meals except breakfast and the field trip, and is subsidised by the WAERF.

For more information contact the conference organisers:
David Hamilton, Centre for Water Research, The University of Western Australia, WA 6907, e-mail: hamilton@cwr.uwa.edu.au
Jeff Turner, CSIRO Land and Water, Perth Laboratory, Private Bag, Floreat, WA 6014, e-mail: jeff@per.clw.csiro.au
Kaye Horn, Conference Administrative Officer, Centre for Water Research, The University of Western Australia, WA 6907, e-mail: hornk@cwr.uwa.edu.au

ASBMB and ASPP COMBINED NATIONAL CONFERENCE 1998
28 September - 1 October 1998

Your Special Invitation

From Professor Joe Wiskich and Dr John Wallace
Co-chairmen of the Organising and Program Committees ....

On behalf of the organising and programme committees, representing the interests of molecular biology, biochemistry and plant physiology in South Australia we cordially invite you to participate in a Combined Conference of the ASBMB and ASPP (incorporating the 42nd Annual Conference of ASBMB and the 38th Annual Meeting of ASPP and including the NZSPP). The meeting will be held in the Adelaide Convention Centre and Exhibition Hall.

We look forward to an especially invigorating meeting, with an intensive scientific program over four full days, organised around exciting plenary lectures by 11 overseas and 3 Australian speakers. The scientific program will be complemented by a memorable social program, including the Conference Dinner.

A number of concurrent symposia are being planned including the following proposed topics; Apoptosis: Biochemical Education; Bioinformatics; Cell Cycle; Chromatin Structure; Cytochrome P450s; Gene Therapy; Growth Factors & Cytokines; Herbicide Resistance; Molecular Breeding; Molecular Recognition; Plant/Microbe Interactions; Plant Membrane Transport; Protein Engineering; Protein Folding; Root/Shoot Interactions; Signal Transduction; Steroid Hormone Action; Tumorigenesis;

It is anticipated that some concurrent colloquia drawn from abstracts submitted by registrants will be included in the final program. We know of the difficulties of young researchers in presenting their work and we wish to encourage students to present oral papers.

Significantly the conference program includes interaction with other societies; The A&NZ Soc. for Cell and Developmental Biology and the N.Z. Society of Plant Physiologists.

The posters will be exhibited in the Exhibition Hall adjacent to the Convention Centre and be dispersed within the trade display for the full 4 days of the Conference.

For further information see contact details in Conference Capers.

CALL FOR GLOBAL ACTION ON RUINED LANDSCAPES

CSIRO Land and Water

A leading Australian scientist has called for world action to avert the destruction of landscapes and fresh water resources, on a par with the present international efforts being made on Greenhouse and ozone depletion.

Dr Graham Harris, Chief of CSIRO Land and Water, said that in terms of their impact on humanity, the degradation of soils, rivers, forests and lakes will be far more immediate and damaging than Greenhouse and ozone depletion, in the short term. He warned that approaches now being taken to tackle land and water problems may be far too fragmented to have much effect. The need is pressing for landscape repair to become a world priority equivalent to the effort being exerted by the international community to tackle problems with the atmosphere.

> "Many of the world's ecosystems are going downhill fast – and you don't have to be a rocket scientist to see it.
>
> "To take a few instances: we've lost the Aral sea, the Baltic's going and there is widespread destruction of the landscape in Africa and South East Asia. The recent fires in this region are a good example. Lough Neagh in Ireland is bright green with algae from excess nutrients and many other inland water bodies around the world have persistent toxic algal blooms.
>
> "But, in one sense, ecologists have lost the plot. We are still seeing the problems on the micro scale, when what we need is a global effort to rebuild sustainable landscapes and water resources."

Dr Harris argues that Australia is uniquely qualified to lead an international campaign for a global focus on landscape degradation – both its causes and its cures.

"We have government bodies like the Murray-Darling Basin Commission and the Great Barrier Reef Marine Park Authority which are world models for how you deal with the complexity of multiple, sustainable use across government and the community.

"Our grassroots movements like LandCare and Greening Australia understand the issues at the community level and are also widely admired internationally.

Australia also has long experience in understanding arid and fragile landscapes and water systems.

"Our dynamic and fast-growing environmental industry is becoming very good at exporting its products. And we have world-class land and water science to underpin it all.

Few other countries can claim this combination of scientific insight and practical ways to tackle the problem, he argues.

"Humanity is now starting to face some very hard decisions about how we use our landscapes – and that means everything in them: trees, soils, water, biodiversity, the lot," Dr Harris says. Our impacts on soils, rivers and global nutrient cycles are now severe and pressing.

"At the moment humanity does not have good answers for how to address these problems on a large scale. That needs a new kind of science, not the sort of small-scale bandwagon academic research we've seen till now, but broad landscape and region-scale research."

Dr Harris insists that such science is at the highly practical end of the scale and is in contrast to the more extreme forms of environmentalism.

"In the Murray-Darling Basin, for example, we want to show how, if we put the trees back in the right way we can prevent salinity, improve the rivers, bring back biodiversity, protect our soils and create new industries and jobs – all at the same time.

"This is a supremely practical, muddy-boots approach to what is wrong with our landscape and how to restore it."

Australia, through its skills and its fast-growing environmental industry, is well placed to become an exporter to the world of ideas and technologies for solving landscape problems – and to prosper from it.

"But we also need to be a leader in the debate about how we tackle these problems on a global scale and how we develop an environmental ethic which values humanity and the natural world equally."

More information:

Dr Graham Harris, CSIRO Land & Water *02 6246 5621*

Margaret Bryant, CSIRO Land & Water *08 93336215*

email: margaret.bryant@per.clw.csiro.au

THE RIVER RESTORATION PROJECT

The "River Restoration Project" is a non-profit organisation in the UK that aims to restore rivers for conservation, recreation and amenity. They draw expertise from a range of river ecologists, engineers, managers, fisheries biologists and geomorphologists and are advised by a Steering Committee of representatives of the major UK organisations interested in land and water management. There have been several substantial active river restoration projects in the UK. One interesting case study is the River Cole, a lowland rural river that has been modified and regulated for over 900 years. At a cost of some 150 000 Pounds, a 2-km length has had its meandering plan form restored, wet meadow grasslands have been created and riffles have been "seeded" with gravels placed in pools. If you would like more information on this case study and several others, Martin Janes (the Project Co-ordinator) is happy to provide this and is also keen to hear about Australian experiences in river restoration. He can be emailed on mailto:rrp@cranfield.ac.uk

Andrew Boulton
UNE, Armidale

RAMSAR WETLAND CONVENTION - LISTSERVER ACCESS

Any interested party can subscribe to the Ramsar mailing list.

The Ramsar Forum is an unmoderated mailing list maintained as a service to the public by the Ramsar Convention Bureau in Gland, Switzerland. Facts or opinions posted here do not represent the views of the Convention Bureau or Contracting Parties.

For help, contact the list owner (ramsar-owner@indaba.iucn.org).

Presentation Skills Workshop for scientists

LEARN HOW TO MAKE A TALK WORK FOR YOU AND THE AUDIENCE

This practical two-day Workshop teaches you to:

- give presentations with confidence
- structure talks in a logical way
- handle the unexpected question
- use visual aids to add impact

The aim of the Presentation Skills Workshop is to help participants to communicate their message effectively to a range of audiences.

This two-day Workshop is very **practical** and includes a number of "speak on your feet" exercises with lots of tips given for personal improvement.

Participants deliver "before-and-after" five minute presentations, for individual feedback on strengths and weaknesses.

Specific topics include:

- structuring and preparing an effective presentation
- framing the message
- overcoming nerves
- using body language, voice and gestures
- analysing the audience
- making the best use of audio-visual aids
- dealing with questions

The Workshop fee of $545/person for a two-day Workshop ($345/person for a one-day Workshop) includes:

- comprehensive notes
- take away video tape of personal presentations
- individual feedback on presentations
- lunch and other refreshments.

Group size is strictly limited to allow participants maximum practical experience.

The Workshop runs from 9.00 am until 5.00 pm on both days.

The Land and Water Resources R&D Corporation will provide support for scientists working on their projects to attend these Workshops. Contact the Workshop organisers or Glenn Conroy, Phone: 02 6257 3379, Fax: 02 6257 3420.

The presenters
Toss Gascoigne and Jenni Metcalfe have backgrounds in journalism, science communication and education. They work in close daily contact with scientists and have been running these Workshops for six years across Australia.

Other Workshops
Special Workshops can also be designed and conducted for organisations or groups. These include intensive Workshops for smaller groups, one-day Workshops, or combined Media and Presentation Skills Workshops. Discuss your needs with us.

Two-day Media Skills Workshops are also offered for scientists seeking to use the media to communicate their science. Ask for a copy of the Media Skills brochure.

For further information contact:
Jenni Metcalfe
ECONNECT, PO Box 734, South Brisbane BC QLD 4101
Phone (07) 3846 7111; Fax (07) 3846 7144
E-mail jenni.econnect@b022.aone.net.au

Presentation Skills Workshop Dates - 1997

Adelaide
Monday 9 February (one-day Workshop - $345/person)
Tuesday 10 February (one-day Workshop - $345/person)

Melbourne: Monday - Tuesday, March 9-10

Canberra: Monday – Tuesday, April 20-21

Sydney: Monday – Tuesday, June 22-23

Brisbane: Monday – Tuesday, August 10-11

Please note numbers are strictly limited to allow all participants maximum practical experience. Register early to ensure your place.

We run most of our Workshops under special arrangement with specific groups or organisations. If these dates or locations do not suit, please discuss your needs with the presenters.

Learn how to make a talk work for you and the audience.

Media Skills Workshops for scientists

LEARN HOW TO MAKE THE MEDIA WORK FOR YOU

This practical two-day Workshop teaches you to:

- give your message to the media with **confidence**
- **practice** your interview technique with working journalists
- get your message out **accurately**

The aim of the Media Skills Workshop is to help scientists control their media appearances.

This two-day Workshop is highly **practical** and brings in working journalists from television, radio and newspapers.

Improve your interview skills through practice sessions in front of the camera and microphone. Work with journalists to shape your story ideas into a format to interest media.

Specific topics include:

- answering questions from television, radio and newspaper journalists
- turning good science into good media
- making the big announcement
- knowing what to do when a journalist knocks on your door
- emphasising the important message
- handling the difficult questions
- organising a good media release

The Workshop fee of $545/person for a two-day Workshop ($345/person for a one-day Workshop) includes:

- comprehensive notes
- take away video tape of all television interviews
- take away audio tape of all radio interviews
- individual feedback on interview technique
- lunch and other refreshments

Group size is strictly limited to allow participants maximum practical experience.

The Workshop runs from 9.00 am until 5.00 pm on both days.

The Land and Water Resources R&D Corporation will provide support for scientists working on their projects to attend these Workshops. Contact

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The presenters
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Special Workshops can also be designed and conducted for organisations or groups. These include intensive Workshops for smaller groups, one-day Workshops, or combined Media and Presentation Skills Workshops. Discuss your needs with us.

Two-day Presentation Skills Workshops are also offered for scientists seeking to develop skills in addressing live audiences. Ask for a copy of the Presentation Skills brochure.

For further information contact:
Jenni Metcalfe, ECONNECT, PO Box 734, South Brisbane BC QLD 4101
Phone (07) 3846 7111; Fax (07) 3846 7144
E-mail jenni.econnect@b022.aone.net.au

Media Skills Workshop Dates - 1997

Adelaide
Thursday 12 February (one-day Workshop - $345/person)
Friday 13 February (one-day Workshop - $345/person)

Melbourne: Thursday - Friday, March 12-13

Canberra: Thursday – Friday, April 23-24

Sydney: Thursday – Friday, June 25-26

Brisbane: Thursday – Friday, August 13-14

Please note numbers are strictly limited to allow all participants maximum practical experience. Register early to ensure your place.

We run most of our Workshops under special arrangement with specific groups or organisations. If these dates or locations do not suit, please discuss your needs with the presenters.

Learn how to make the media work for you.

NEWS FROM FASTS

SCIENCE NOW

SCIENCE NOW!, the first National Science Forum will be held at the Melbourne Exhibition Centre, on 7-10 May 1998, co-located with the Great Australian Science Show.

The aim of the Forum is to showcase the best and latest Australian science and technology, especially involving younger scientists.

The major sponsor, the Victorian Government has been joined by the Commonwealth Department of Industry, Science and Tourism.in supporting the 1998 and 1999 forums.

SCIENCE NOW! will have four main elements:

1. Breaking new ground:
   Fresh Australian science - scientists starting to make their mark in the world of science will be encouraged to present their work to the media and the public. A scientific committee will select the topics - key criteria will include that:
   - the work has not received significant media attention
   - the scientist can present the work in a way that makes it interesting/relevant to the media.

   Nomination criteria will be circulated in mid-February.
2. Science in society - point and counterpoint
   Debates and forums involving leading researchers and the general public both in the auditorium and via the media.
3. Workshops
   Professional development opportunities for business, journalists, scientists & science communicators.
4. Youth Program

Aimed at secondary students with science activities and presentations on subject choices, choosing a university, scholarships and developing a career in science.

Niall Byrne is Program Coordinator for SCIENCE NOW! and can be contacted on 03 5253 1391, mob. 0417 131 977 or by email: niall@aahl.dah.csiro.au

UNIVERSITY SCIENCE: CRISIS OR CROSSROADS?

Professor Peter Cullen, President of the Federation of Australian Scientific and Technological Societies (FASTS) has announced that FASTS is to host a one day forum at the National Press Club to examine the challenges facing university science departments. The Forum is being organised by FASTS in conjunction with the AVCC and the Australian Council of Deans of Science. It will bring together groups from industry, Government and the university sector to work on constructive solutions to the changing expectations and shrinking resources being experienced by university science departments. The Forum will feature Professor John Niland as the lunchtime speaker. Professor Niland took up the position of Chair of the Australian Vice-Chancellor's Committee (AVCC) earlier this month.

The Forum is supported by industry. The Australian Chamber of Commerce and Industry, the Minerals Council of Australia and the Business/Higher Education Round Table will all being represented by top speakers."

The Forum is also supported by:

⇒Australian Academy of Science
⇒Australian Academy of Technological Sciences and Engineering
⇒Institution of Engineers Australia
⇒National Tertiary Education Union
⇒National Farmers' Federation.

The Forum will run from 9.15 to 4.30 on Wednesday February 25 at the National Press Club in Canberra. It is open to the public, and registration fees are $150 and $45 for students and post-doctoral fellows.

Details of the program and registrations are available from Ms Jan Thomas, Vice-president of FASTS. She can be contacted on (03) 9688 4401 or by email on JanThomas@VUT.edu.au

BOOK REVIEW

A WORLD OF WOUNDS

Paul R Ehrlich (1997) *A World of Wounds: Ecologists and the Human Dilemma*. Ecology Institute, Oldendorf/Luhe.
ISSN 0932-2205. 210p.

Is there a serious mismatch between the thrust of research in modern ecology and the scale of environmental problems that confront us? In this book Paul Ehrlich cites an observation (Hal Mooney, former ESA President) that one could read an entire volume of the premier global journal *Ecology* and not be aware that there is an environmental crisis. *Ecology*, says Ehrlich, is a monument to reductionism. The pages of many lesser journals also are crowded with sophisticated analyses of trivial problems, or with nugatory details archived in the implicit hope that patterns and processes one day will reveal themselves. Why have so many ecologists, of all people, turned from reality?

Ehrlich is universally known as a prophet on environmental matters. Because some of his projections about populations and resources in the 1970s were not realised in the time scale he proposed, he has been discounted by some as a doomsayer. Ecologists know, or ought to know, that the processes which Ehrlich writes about are by no means unreal and that they continue to build toward a reckoning. The phrase 'a world of wounds' is borrowed from Aldo Leopold; it refers to an awareness of impending crisis, "one of the penalties of an ecological education". In today's cultural climate such things are somewhere beyond the economic horizon (read 'edge of the galaxy'). Some may say that we should not underestimate human ingenuity—that biotechnology and economics will conspire to solve such problems.

Ehrlich's book is part personal memoir, acknowledging receipt of the 1993 Ecology Institute Prize in terrestrial ecology, and part exhortation to fellow ecologists. He uses "ecology" in the sense of "population biology', reflecting his core research interests, and curiously sees "ecosystem ecology" as a narrower perception of the discipline (p19). Nevertheless he roams widely, literally and figuratively, to portray the nature of the environmental crisis and people's reluctance to confront it.

Some readers will find interesting insights into the author's personality and his outlook. For this reader, the more sober message dominated. It is less a matter of denial or ignorance among professional ecologists than it is of false priorities (the *urgent* so readily displaces the *important*). If we are to take a more

responsible stance we need to re-scale our perceptions and "internalise" (what we assume to be) our "externalities". The "metabolism of the dominant animal" (a phrase due to RV O'Neill) is driving change at all levels of spatial scale, and although its temporal scale is historically short, its consequences are indefinite. Loss of biodiversity is a direct consequence of the expansion of human enterprise.

For me, the author's answer to the question "what is the ultimate goal of all of our efforts?" came as a rude shock. Ehrlich advocates an "entire world redesigned around both human beings *and* the diversity of other organisms that is crucial to humanity" (p92). He implies that even this egocentric view is "wildly impractical", so my preference for a world where species and landscapes may persist independently of human value-judgements must be doubly so. Ehrlich's view will appeal to those who see conservation as manipulating the biosphere for the benefit of humans, but it is anathema to those who regard humans as tenants rather than landlords.

Tenancy is even more wildly impractical, perhaps, and Ehrlich's vision surely is more in keeping with popular perceptions of economics and biotechnology. This soured my enjoyment of his subsequent words on the need to reconcile economics and ecology. The need is unquestioned but his motives and the likely outcomes seem less palatable.

So there it is: a compelling, disturbing and challenging discourse on the environmental crisis by a front-rank scientist, and an appeal to ecologists to re-examine their senses of mission and social responsibility. Why do so many of us choose not to act? Part of the explanation must be that we are confused about our goals.

Reviewed by
KF Walker,
CRC for Freshwater Ecology and Department of Zoology,
University of Adelaide 5005.

CONFERENCE CAPERS

AUSTRALIA 1998

- **AWWA - CRCFE: Regional Water Planning - Making Catchment Management Work**, 2-4 February 1998, University of Canberra. Enquiries to: Ph (02) 9413 1288, Fax: (02) 9413 1047, PO Box 388, Artarmon NSW 2064. Email: awwa@inta.net.au, Website: http://www.awwa.asn.au

- **University Science: Crisis or Crossroads**, 9.15 am to 4.30 pm, Wednesday February 25, National Press Club, Canberra. Registration fees are $150 and $45 for students and post-doctoral fellows. Details are available from Ms Jan Thomas, Vice-president of FASTS. She can be contacted on (03) 9688 4401 or by email on JanThomas@VUT.edu.au

- **Aquatic Ecology Postgraduate Workshop**, 16-18 March 1998, Queenscliff, Vic. Cost $85 (including food and accommodation). Email: aepgw@unimelb.edu.au or http://www.arts.unimelb.edu.au/Dept/Geography/aepgw.html

- **Managing Saltland into the 21st Century: Dollars and Sense from Salt**, 9-13 March 1998, Tamworth NSW. Further information from Dr Nico Marcar, CSIRO Forestry and Forest Products, Ph (02) 6281 8211, Email: nico.marcar@ffp.csiro.au

- **Science Now!**, 7-10 May 1998, Melbourne Exhibition Centre. Contact Niall Byrne, Program Coordinator for SCIENCE NOW! Ph: 03 5253 1391; mob. 0417 131 977; email: niall@aahl.dah.csiro.au

- **Australian Society for Limnology**, tentative July, Queensland

- **15th International Diatom Symposium**, 28 September - 2 October 1998, Curtain University, Perth WA. Pre-registration by 30th October 1997. Information from Jacob John, School of Environmental Biology, Cutain University of Technology. GPO Box U 1987, Perth WA 6845. Ph: (08) 9266 7327; Fax: (08) 9266 2495; Email: RJACOBJO@cc.curtain.edu.au. or visit the home page on http://www.curtain.edu.au/curtain/dept/enviro/15IDS.html

- **Ecology Society of Australia** - joint meeting with New Zealand Ecology Society -see in Overseas section

- **1998 Australian Society for Biochemistry & Molecular Biology and the Australian Society of Plant Physiologists Combined Conference,** 28 September - 1 October 1998, Adelaide Convention Centre, South Australia.. Co-convenors : Dr John Wallace and Prof Joe Wiskich. Sally Jay, ASBMB National Office. Email: asbmb@camtech.net.au Phone : 61 8 8362 0009 Fax : 61 8 8362 0038

OVERSEAS 1998

- **International Interdisciplinary Conference Headwater Control IV: Hydrology, Water Resources and Ecology in Headwaters,** 20-23 April 1998, Meran/Merano, northern Italy (The Alps). This conference will focus on the interdisciplinary aspects of scientific and applied water resource management in headwaters. It will aim to link the perspectives of the research scientists (hydrologists, ecologists, etc.), land-management practitioners and policy makers through consideration of the problems caused by pollution, land erosion, and environmental degradation. The conference will provide an international forum for the evaluation of alternative land management, environmental protection and land reclamation practices and policies. The conference is intended as a balanced mix of scientific approaches and practical applications. Both oral and poster presentations are planned. For more information contact: HeadWater'98, > c/o European Academy, Weggensteinstrasse 12/A, I-39100 Bozen/Bolzano, Italy. Ph: +39 - 471 - 30 61 11; Fax: +39 - 471 - 30 60 99; Email: HeadWater98@ms.sinfo.interbusiness.it; or visit the Home Page http://www.EURAC.edu/headwater

- **Watershed Management: Moving From Theory to Implementation,** May 3-6, 1998, Denver, Colorado, USA. For further information on Abstracts and the Conference contact: Greg McNelly (Email: gmcnelly@wef.org) or Technical Programs - Abstracts, Water Environment Federation, 601 Wythe Street, Alexandria, VA 22314, Phone: +1-703-684-2400

- **NABS 46th Annual Meeting,** 2-5 June 1998, Prince Edward Island, Canada. Abstract deadline 4th January 1998. Information can be obtained from: http://www.benthos.org

- **ASLO/ESA 1998 - The Land-Water Interface: Science for a Sustainable Biosphere,** 7-12 June 1998, St Louis, Missouri USA. Further information contact: Business@aslo.org

- **VII International Congress of Ecology,** 19-25 July, Florence Italy. Contact details: Phone: +39-187-400252, Fax: +39-187-420727, Email: afarina@tamnet.it or visit the web site: http://www.tamnet.it/intecol.98

- **27th International Association of Theoretical and Applied Limnology (SIL),** 9-15 August 1998, Dublin, Ireland. Theme for the congress is "water of life". Further information from: Declan Murray, Secretary General, XXVII SIL Congress, UCD Environmental Institute, Richview, Clonskeagh, DUBLIN 14, IRELAND. Information can also be found at the web site: http://nis.rtc-tallaght.ie/conferences/sil98/sil98.htm

- **International Conferences on Ephemeroptera and Plecoptera,** 17-23 August 1998, Tafi del Valle, Argentina. Email: mayfly@unt.edu.ar

- **Ecology Society of Australia** and **New Zealand Ecology Society** joint meeting, 23-27 November 1998, Dunedin New Zealand

FURTHER IN THE FUTURE....

- **28th International Association of Theoretical and Applied Limnology (SIL),** February 2001, Melbourne, Australia.

- **29th International Association of Theoretical and Applied Limnology (SIL),** August 2004, Helsinki, Finland.

ASL VOLUNTEERS

The following people have volunteered to speak as experts on behalf of the ASL. If you wish to be included on the list contact:

Dr Richard Marchant (ASL Secretary)
Email: rmarch@pioneer.mov.vic.gov.au

The following members are prepared to speak on behalf of the ASL on their area of expertise.

Name	Area of Expertise	Contact Details
Prof A. Arthington	in stream flows, ecology of exotic fishes, conservation of rare fishes.	Centre for Catchment & Instream Res, Griffith University, Natham Qld. 4111. Phone (07)275 7403 , Fax: (07)277 3759
Dr P. Boon	bacteriological issues, wetlands.	Environmental Management, Victoria University of Tech., PO Box 14428 MMC, Vic. 3000. Phone (03)9365 2214, Fax (03) 9365 2465. email: paul.boon@vut.edu.au
Dr A. Boulton	intermittent streams, hyporheic zones, Flinders Ranges	Ecosystem Management, University of New England, Armidale, NSW 2351. Phone (067)733760, Fax (067)732 769 email: aboulton@metz.une.edu.au
Dr M. Brock	temporary wetlands, aquatic plants	Botany Department, University of New England, Armidale NSW 2351. Phone (067)732 578, Fax (067)733 283 email: mbrock@metz.une.edu.au
Dr S. Bunn	stream ecology, ecology of riparian zones, biomonitoring	Faculty of Environmental Sciences, Griffith University, Nathan, Qld 4111. Phone (07)8757 407, Fax (07)875 7459, email: s.bunn@ens.gu.edu.au
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K. Hortle	impact of mining, impact of development in Se Asia and PNG on rivers	Environmental Management, 18 Sharrow Road, Mitcham, Vic. 3132 Phone and Fax: (03) 9872 4101

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Dr W. Ponder	freshwater molluscs	Malacology, Australian Museum, 6 College Street, SYDNEY 2000 Ph: (02) 9320 6120 Fax (02) 9320 6050 Email: winstonp@amsg.austmus.gov.au
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Prof. W.D. Williams	Salt lakes	Zoology Dept, University Adelaide, Adelaide SA 5005. Phone (08) 8303 4455, Fax: (08) 83034364

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